

A NEW *HOLCOCERA* CLEMENS (LEPIDOPTERA: GELECHIOIDEA:
COLEOPHORIDAE) FROM MOUNTAINOUS SOUTHEASTERN ARIZONA

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Abstract.—*Holcocera fergusonii*, new species, is described from two high-altitudinal collecting sites in the Santa Catalina Mountains and the Chiricahua Mountains in southeastern Arizona. A photograph of the holotype and illustrations of wing venation and male and female genitalia are provided.

Key Words: Holcocerini, microlepidoptera, North America, taxonomy

Hodges (1983) treated 109 species of North American Blastobasinae. Later Adamski and Hodges (1996) discovered 61 synonymies, reducing the total number of Blastobasinae by more than one half. Although this taxon is little known, it is one of the most commonly collected gelechioid groups at light. Moreover, I have observed many undescribed species in institutional and private collections indicating that the Blastobasinae could be a much more speciose group than previously considered.

The monophyly of the Blastobasinae has been collaborated from studies by Adamski and Brown (1989) and Hodges (1998). Generally, species are dull gray or brown with few, if any, diagnostic wing patterns, making identification difficult unless the genitalia are examined. I follow the current phylogenetic classification of the Gelechioidea proposed by Hodges (1998). In this work, the Blastobasinae (*sensu* Adamski and Brown 1989) are treated as a subfamily within the Coleophoridae. Thus, the Blastobasinae are subdivided into two clades, the Holcocerini and the Blastobasini.

The North American Holcocerini include three genera, *Asaphocrita* Meyrick 1931,

Holcocera Clemens 1863, and *Calosima* Dietz 1910. It contains many of the largest moths in the subfamily yet it is the least speciose of the two tribes within the Blastobasinae. Holcocerini can be recognized by the following features: ring support at the base of the aedeagus, anterior margin of the eighth sternum medially emarginate in female, eighth sternum setose in female, and inception of ductus seminalis anterior from posterior margin of seventh sternum. Additional plesiomorphic characters found in Holcocerini that separate them from Blastobasini are listed in Adamski (2002).

About a month before Douglas C. Ferguson's untimely death he gave me six specimens of an undescribed *Holcocera* that he collected at a high elevation collecting site in the Santa Catalina Mountains in southeastern Arizona. Initially, this species was to be included in a future fascicle on the Blastobasinae in the *Moths of America north of Mexico* series published by the Wedge Entomological Research Foundation. However, after Doug Ferguson's death, I was compelled to describe the new moth in a separate paper to honor the life of a fellow colleague and friend.



Fig. 1. *Holcocera fergusonii*, holotype.

Kornerup and Wanscher (1978) was used as a color standard for descriptions of the adult vestiture. Male and female genitalia were dissected as described by Clarke (1941), except mercurochrome and chlorazol black were used as stains. Pinned specimens were examined with dissecting and compound microscopes. Measurements were made with a calibrated ocular micrometer.

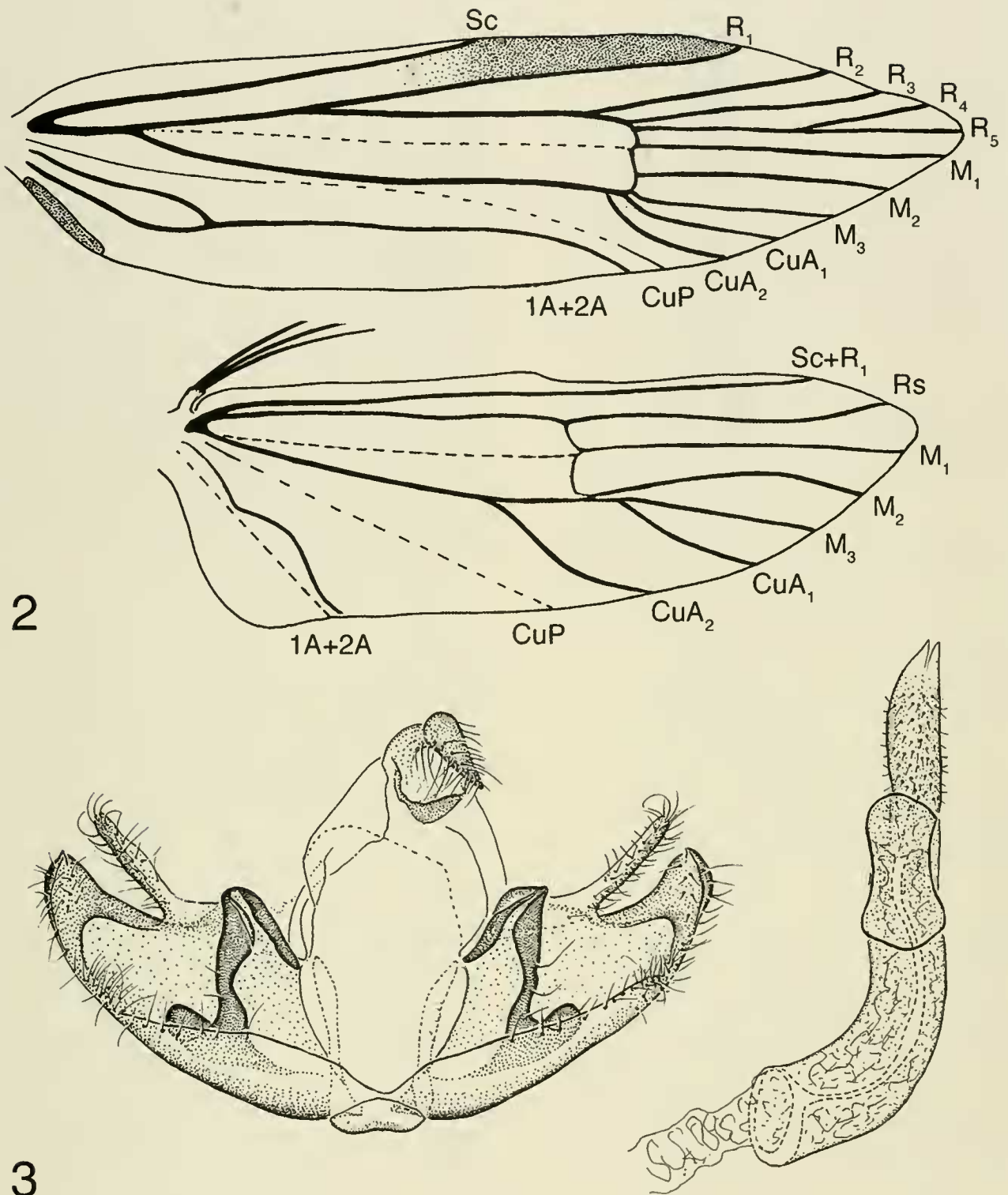
***Holcocera fergusonii* Adamski,
new species
(Figs. 1–4)**

Diagnosis.—*Holcocera fergusonii* is closest to *Holcocera zonae* Adamski (2002) of Costa Rica by sharing a ventral part of valva with an enlarged proximal flange, and a stout apical process. However, *Holcocera fergusonii* differs from the latter species having a darker forewing pattern, an apicoventral part of the proximal flange that is more lobelike, and ventral margin of valva that is reflexed beyond ventral margin of the proximal flange.

Description.—**Head:** Vertex and frontoclypeus with narrow gray scales, each

tipped with pale gray; outer surface of labial palpus with gray scales tipped with pale gray intermixed with dark gray scales, and pale gray scales to near distal apices of segments I and II; inner surface similar but paler; scape of antenna with dark gray scales tipped with pale gray intermixed with gray scales; flagellum pale gray or, basal 6–10 flagellomeres dark gray, remaining distal flagellomeres pale gray; first flagellomere deeply notched in male, unmodified in female; proboscis with gray scales tipped with pale gray.

Thorax: Mesonotum and tegula mostly gray intermixed with pale gray scales, gradually intermixed with pale gray scales distally. Legs with dark gray scales (some tipped with pale gray) intermixed with pale gray scales near midsegments and distal apices of all segments and tarsomeres. Forewing (Figs. 1–2) length 11.0–12.1 mm ($n = 9$), with gray scales tipped with white intermixed with gray scales (some tipped with pale gray or white) and dark gray scales; 4 dark gray or gray, transverse, jagged streaks present: one near midlength, one near distal end of cell, one subapical,



Figs. 2-3. *Holcocera fergusonii*. 2, Wing venation. 3, Male genitalia (genital capsule and aedeagus).

and one submarginal; one large dark gray spot present near distal end of cell; fringe pale gray, tipped with white; undersurface pale brownish gray; venation with chorda present as a slight fold within cell; M₁ straight; M₂ slightly arched toward M₁; M₃ and CuA₁ approximate basally, slightly divergent from base; CuA₁ and CuA₂ nearly parallel basally, slightly divergent to margin. Hindwing: Pale gray; frenulum with an

acanthus in male, 3 acanthae in female; venation (Fig. 2), with Sc + R₁ straight, anastomosed basally with medius; chorda present as a slight fold within cell; M₂ broadly arched toward M₁ beyond midlength; M₃ and CuA₁ branched beyond posterodistal angle of cell; CuA₁ and CuA₂ nearly parallel.

Abdomen: Dorsum with pale gray scales intermixed with irregular rows of spinelike

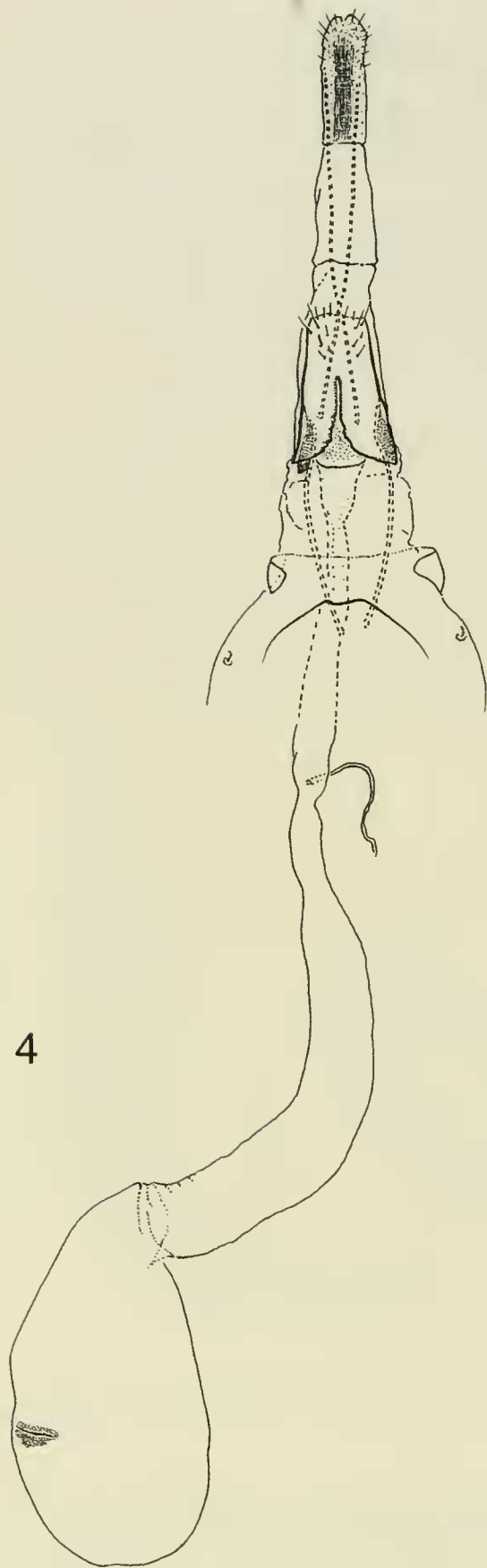


Fig. 4. *Holcocera fergusonii*, female genitalia.

setae on terga 1–7 in male and terga 1–6 in female; venter pale gray.

Male genitalia (Fig. 3): Uncus setose, slightly elongate, conical; gnathos widened medially, with narrowed arms free; vincu-

lum narrow, upturned along posteroventral margin; valva divided, digitate costal part fused with widened lower part; lower part widened basally, gradually narrowed distally into a broadened, inwardly curved and short spinelike process; margin of ventral part of valva broadly upturned, overlying ventral part of enlarged proximal flange; proximal flange acutely angled dorsally, extending ventrally to the base of an elongate, rounded, slightly upturned lobe; juxta elongate, widely emarginate laterally, fused at point of overlap with sclerite of aedeagus and base of anellus; aedeagus elongate, acutely curved basally; sclerite of aedeagus with a basal ring support; anellus elongate, conical, with many microsetae.

Female genitalia (Fig. 4): Ovipositor telescopic, with three membranous subdivisions; anterior margin of eighth sternum with a deep notchlike emargination extending posteriorly to about midlength; basal third of anterior apophysis fused along posterolateral margin of eighth sternum, laterally enlarged, forming a flattened winglike flange extending from lateral margin of posterior third; medioanterior part of eighth tergum with a short linear invagination; eighth sternum setose from posterior margin to apex of notch; ostium bursae near anterior end of eighth sternum; antrum membranous, slightly elongate; ductus bursae elongate; inception of ductus seminalis anterior to subtrapezoidal seventh segment and posteriorly a slightly constricted area of ductus bursae; corpus bursae slightly elongate, with a platelike signum near anterior end.

Types.—Holotype ♂, “Ariz[ona]: Summerhaven, Santa Catalina Mountains, Pima County, 7800 feet, 16 July 1998, Douglas C. Ferguson [collector]” “♂ USNM Genitalia Slide by DA, No 82465.” Deposited in the National Museum of Natural History, Smithsonian Institution, Washington, D.C. [USNM].

Paratypes (2 ♂, 6 ♀): 2 ♀, same data as holotype; 1 ♀, same data as holotype except, “15 July 1998”; “♀ USNM Genitalia

Slide by DA, No. 82466"; 2 ♀, same label data as holotype except, "23 July 1998"; "♀ USNM Genitalia Slide by DA, No. 82467"; "♀ USNM Wing Slide by DA, No. 82468"; 2 ♂, "Onion Saddle, 7600', Chiricahua Mountains, Cochise Co., Arizona, 18 August 1967, J.G. Franclemont"; "♂ USNM Genitalia Slide by D. Adamski No. 80099"; "♂ USNM Wing Slide by D. Adamski No. 80458"; "*Holcocera* sp 3, Adamski/Brown'89, Voucher"; "♂ USNM Genitalia Slide by D. Adamski No. 80100"; 1 ♀, same label data as above except, "29 July"; "♀ USNM Genitalia Slide by D. Adamski No. 80098"; "♀ USNM Wing Slide by D. Adamski No. 80459"; "*Holcocera* sp 3, Adamski/Brown'89, Voucher" All paratypes in USNM.

Etymology.—This species is named in honor of the late Douglas C. Ferguson of the Systematic Entomology Laboratory, U.S. Department of Agriculture, Washington, D.C., for his encouragement of my studies of Gelechioidea, especially Blastobasinae.

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